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Sleep Disorders

NARCOLEPSY

Narcolepsy is a sleep disorder with prominent sleep attacks as a form of excessive daytime somnolence. The other associated features of narcolepsy occur with varying frequency. These include cataplexy, hypnagogic and hypnopompic hallucinations, and sleep paralysis.

The laboratory method of diagnosis is the multiple sleep latency test. Narcoleptics will show sleep-onset rapid eye movement with short latency. Biochemical markers such as human leukocyte antigen DQB1*0602 or DR2 type have very high sensitivity but low specificity. Cerebrospinal fluid analysis may show low levels of the protein hypocretin, but the diagnostic utility of this is unclear.

A number of diagnostic criteria have been developed. *The Diagnostic and Statistical Manual of Mental Disorders, 4th edition*, relies on clinical criteria alone. The American Academy of Sleep Medicine's most recent revision of the International Classification of Sleep Disorders adds sleep lab parameters to the diagnosis. Silber et al., citing the ambiguity and complexity of the International Classification of Sleep Disorders criteria and the lack of validation of these two guidelines, have proposed revised criteria. However, their nomenclature is cumbersome for routine clinical use, and likely will find value primarily among sleep researchers.

From a practical standpoint, it is important to diagnose narcolepsy adequately. Many patients have endured numerous evaluations, leading to delays in diagnosis. The sleep attacks may make work or driving an automobile dangerous, and lead to significant disability. Treatment options include allowing for frequent naps, amphetamines, or modafinil. The first two treatments may themselves be associated with interference of work activities or the need to take stimulants on a chronic basis.

RESTLESS LEGS SYNDROME

Restless legs syndrome (RLS) features nocturnal involuntary limb movements that can cause insomnia because of frequent sleep disruption, and often affects bed partners because of frequent myoclonic-type jerking. It generally begins in early adulthood and affects from 2 to 5% of the population. RLS may run in families, with susceptibility genes identified on chromosomes 12q and 14q. RLS has also been associated with Parkinson's disease, pregnancy, end-stage renal disease, iron deficiency anemia, peripheral neuropathy, and diabetes.

Treatment of RLS is based on individual patient needs, age, and comorbid conditions. Dopaminergic drugs are generally used for initial treatment. Anticonvulsants, opioids, and sedative/hypnotics may also be effective in treating RLS.

SLEEP APNEA SYNDROME

Sleep apnea syndrome is a common cause of excessive daytime somnolence. Aside from its association with obesity and smoking, obstructive sleep apnea has also been associated with increased risk for many other disorders, including cardiovascular and cerebrovascular disease. The detailed diagnostic

From: *Current Clinical Neurology: Diagnostic Criteria in Neurology*
Edited by: A. J. Lerner © Humana Press Inc., Totowa, NJ

Table 1
Diagnostic and Statistical Manual of Mental Disorders, 4th Revised Edition, Diagnostic Criteria for Narcolepsy

A. Irresistible attacks of refreshing sleep that occur daily over at least 3 months.
B. The presence of one or both of the following:
   a. Cataplexy (i.e., brief episodes of sudden bilateral loss of muscle tone, most often in association with intense emotion).
   b. Recurrent intrusions of elements of rapid eye movement sleep into the transition between sleep and wakefulness, as manifested by either hypnopompic or hypnagogic hallucinations or sleep paralysis at the beginning or end of sleep episodes.
C. The disturbance is not because of the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or another general medical condition.

Adapted from American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 4th rev. ed. Washington, DC: American Psychiatric Association, 1994.

Table 2
American Academy of Sleep Medicine Diagnostic Criteria: Narcolepsy

A. The patient has a complaint of excessive sleepiness or sudden muscle weakness.
B. Recurrent daytime naps or lapses into sleep occur almost daily for at least 3 months.
C. Sudden bilateral loss of postural muscle tone occurs in association with intense emotion (cataplexy).
D. Associated features include:
   1. Sleep paralysis.
   2. Hypnagogic hallucinations.
   3. Automatic behaviors.
   4. Disrupted major sleep episode.
E. Polysomnography demonstrates one or more of the following:
   1. Sleep latency <10 minutes;
   2. Rapid eye movement sleep latency <20 minutes;
   3. A multiple sleep latency test that demonstrates a mean sleep latency of <5 minutes; and
   4. Two or more sleep-onset rapid eye movement periods.
F. Human leukocyte antigen typing demonstrates DQB1*0602 or DR2 positivity.
G. No medical or mental disorder accounts for the symptoms.
H. Other sleep disorders (e.g., periodic limb movement disorder or central sleep apnea syndrome) may be present but are not the primary cause of the symptoms.

Minimal criteria: B plus C, or A plus D plus E plus G.
Severity criteria:
Mild: Mild sleepiness or rare cataplexy (less than once per week).
Moderate: Moderate sleepiness or infrequent cataplexy (less than daily).
Severe: Severe sleepiness or severe cataplexy (daily).
Duration criteria:
Acute: 6 months or less.
Subacute: More than 6 months but less than 12 months.
Chronic: 12 months or longer.

Adapted from The International Classification of Sleep Disorders, Revised: Diagnostic and Coding Manual. Rochester: American Sleep Disorders Association, 1997.

criteria for both obstructive and varieties of central sleep apnea are located in the section on sleep in the criteria adapted from the *American Sleep Disorders Associations International Classification of Sleep Disorders: Diagnosis and Coding Manual*.

SLEEP DISORDERS

Tables 11–62 have been adapted from the *American Sleep Disorders Association's International Classification of Sleep Disorders: Diagnosis and Coding Manual*.

Table 3
Narcolepsy Diagnostic Criteria by Silber et al.

Diagnostic criteria
Category A. Definite narcolepsy
History of excessive daytime sleepiness.
History of cataplexy, defined as definite bilateral weakness of brief duration brought on by emotion.
Mean initial sleep latency of 8 minutes on multiple sleep latency test (MSLT).[a]
Two or more sleep-onset rapid eye movement periods (SOREMP) on MSLT,[a] or one SOREMP on MSLT[a] and one SOREMP on the preceding nocturnal polysomnography (PSG).
Apnea–hypopnea index (AHI): 10/hour on nocturnal PSG preceding the MSLT.[a]
(The last three criteria can be replaced by cataplexy witnessed by a physician with documented recoverable areflexia, or cataplexy recorded by PSG and video recording.)
Category B. Probable narcolepsy (laboratory confirmation)
Subgroup B1
History of excessive daytime sleepiness.
A history of cataplexy, defined as definite bilateral weakness of brief duration brought on by emotion.
Mean initial sleep latency of 8 minutes on MSLT.[a]
One or fewer SOREMP on MSLT[a] or on the preceding nocturnal PSG.
AHI: 10/hour on the nocturnal PSG preceding the MSLT.[a]
Subgroup B2
History of excessive daytime sleepiness.
No history of cataplexy.
Mean initial sleep latency of 8 minutes on MSLT.[a]
Two or more SOREMP on MSLT or one SOREMP on the MSLT[a] and one SOREMP on the preceding nocturnal PSG.
AHI: 10/hour on the nocturnal PSG preceding the MSLT.[a]
Category C. Probable narcolepsy (clinical)
History of excessive daytime sleepiness.
History of cataplexy, defined as definite bilateral weakness of brief duration brought on by emotion.
No or inadequate sleep studies performed.

[a]MSLT performed under standard conditions, including a total sleep time of 6 hours on the preceding night PSG.

(Adapted from Silber MH, Krahn LE, Olson EJ. Diagnosing narcolepsy: validity and reliability of new diagnostic criteria. Sleep Med 2002;3:109–113, with permission of Elsevier.)

Table 4
Summary of Diagnostic Criteria for Narcolepsy According to Silber et al.

Category	*Cataplexy*	*Laboratory confirmation of sleepiness*	*SOREM periods*
A	Yes	Yes	Yes
B1	Yes	Yes	No
B2	No	Yes	Yes
C	Yes	No	No

SOREM, sleep-onset rapid eye movement periods.

(Adapted from Silber MH, Krahn LE, Olson EJ. Diagnosing narcolepsy: validity and reliability of new diagnostic criteria. Sleep Med 2002;3:109–113, with permission of Elsevier.)

Table 5
Essential Diagnostic Criteria for Restless Legs Syndrome

1. An urge to move the legs, usually accompanied or caused by uncomfortable and unpleasant sensations in the legs. (Sometimes, the urge to move is present without the uncomfortable sensations and sometimes the arms or other body parts are involved in addition to the legs.)
2. The urge to move or unpleasant sensations begin(s) or worsen(s) during periods of rest or inactivity, such as lying or sitting.

(Continued)

Table 5 ***(Continued)***

3. The urge to move or unpleasant sensations are relieved partially or totally by movement, such as walking or stretching, at least as long as the activity continues.
4. The urge to move or unpleasant sensations are worse in the evening or night than during the day or only occur in the evening or night. (When symptoms are very severe, the worsening at night may not be noticeable but must have been previously present.)

Adapted from Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. Sleep Med 2003;4:101–119, with permission of Elsevier.

Table 6
Supportive Clinical Features of Restless Leg Syndrome

Family history:
The prevalence of restless leg syndrome (RLS) among first-degree relatives of people with RLS is three to five times greater than in people without RLS.

Response to dopaminergic therapy:
Nearly all people with RLS show at least an initial positive therapeutic response to either L-DOPA or a dopamine-receptor agonist at doses considered very low in relation to the traditional doses of these medications used for the treatment of Parkinson's disease. This initial response is not, however, universally maintained.

Periodic limb movements (during wakefulness or sleep):
Periodic limb movements in sleep (PLMS) occur in at least 85% of people with RLS; however, PLMS also commonly occur in other disorders and in the elderly. In children, PLMS are much less common than in adults.

Adapted from Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. Sleep Med 2003;4:101–119, with permission from Elsevier.

Table 7
Restless Legs Syndrome in Cognitively Impaired Elderly

Essential criteria for the diagnosis of probable restless leg syndrome in the cognitively impaired elderly (all five are necessary for diagnosis).

1. Signs of leg discomfort, such as rubbing or kneading the legs, and groaning while holding the lower extremities are present.
2. Excessive motor activity in the lower extremities, such as pacing, fidgeting, repetitive kicking, tossing and turning in bed, slapping the legs on the mattress, cycling movements of the lower limbs, repetitive foot tapping, rubbing the feet together, and the inability to remain seated, are present.
3. Signs of leg discomfort are exclusively present or worsen during periods of rest or inactivity.
4. Signs of leg discomfort are diminished with activity.
5. Criteria 1 and 2 occur only in the evening or at night or are worse at those times than during the day.

Adapted from Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. Sleep Med 2003;4:101–119, with permission of Elsevier.

Table 8
Supportive or Suggestive Criteria for the Diagnosis of Probable Restless Leg Syndrome in the Cognitively Impaired Elderly

1. Dopaminergic responsiveness.
2. Patient's past history—as reported by a family member, caregiver, or friend—is suggestive of restless leg syndrome.
3. A first-degree, biological relative (sibling, child, or parent) has restless leg syndrome.

(Continued)

Table 8 *(Continued)*

4. Observed periodic limb movements while awake or during sleep.
5. Periodic limb movements in sleep recorded by polysomnography or actigraphy.
5. Significant sleep-onset problems.
6. Better quality sleep in the day than at night.
7. The use of restraints at night (for institutionalized patients).
8. Low serum ferritin level.
9. End-stage renal disease.
10. Diabetes.
11. Clinical, electromyographic, or nerve-conduction evidence of peripheral neuropathy or radiculopathy.

Adapted from Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. Sleep Med 2003;4:101–119, with permission of Elsevier.

Table 9
Criteria for the Diagnosis of Definite Restless Leg Syndrome in Children

1. The child meets all four essential adult criteria for restless leg syndrome (RLS); and
2. The child relates a description in his or her own words that is consistent with leg discomfort. (The child may use terms such as "oowies," "tickle," "spiders," "boo-boos," "want to run," and "a lot of energy in my legs" to describe symptoms. Age-appropriate descriptors are encouraged.)

or

1. The child meets all four essential adult criteria for RLS; and
2. Two of the three following supportive criteria are present.
   Supportive criteria for the diagnosis of definite RLS in children
   a. Sleep disturbance for age.
   b. A biological parent or sibling has definite RLS.
   c. The child has a polysomnographically documented periodic limb movement index of 5 or more per hour of sleep.

Adapted from Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. Sleep Med 2003;4:101–119, with permission of Elsevier.)

Table 10
Criteria for the Diagnosis of Probable Restless Leg Syndrome in Children

1. Adult criterion no. 4 in Table 5 (the urge to move or sensations are worse in the evening or at night than during the day);

   and

2. The child has a biological parent or sibling with definite restless leg syndrome.

   Or[a]

1. The child is observed to have behavior manifestations of lower extremity discomfort when sitting or lying, accompanied by motor movement of the affected limbs, the discomfort has characteristics of adult criteria nos. 2, 3, and 4 (i.e., is worse during rest and inactivity, relieved by movement, and worse during the evening and at night);

   and

2. The child has a biological parent or sibling with definite restless leg syndrome.

[a]This last probable category is intended for young children or cognitively impaired children who do not have sufficient language to describe the sensory component of restless leg syndrome.

(Adapted from Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. Sleep Med 2003;4:101–119, with permission of Elsevier.)

Associated With Behavioral/Psychophysiological Disorders

Table 11
Diagnostic Criteria for Adjustment Sleep Disorder

1. Complaint of insomnia or excessive sleepiness.
2. Complaint is a reaction temporarily associated with an identifiable stressing event.
3. The disorder is expected to remit if the stress is reduced or the level of adaptation is increased.

Table 12
Diagnostic Criteria for Psychophysiological Insomnia

1. Complaint of insomnia combined with a complaint of diminished performance during waking hours.
2. Learned associations that prevent sleep are identified:
   a. Forcing sleep, which suggests inability to sleep at the desired time, but with the ability to sleep in the course of other relatively monotonous activities, such as watching television or reading.
   b. Awakenings conditioned by the room or sleep-related activities, indicated by poor sleeping at home, but improved sleeping away from home or when no room routines are performed.

Table 13
Diagnostic Criteria for Inadequate Sleep Hygiene

Complaint of insomnia or excessive sleepiness
Presence of at least one of the following:

1. Daytime naps at least twice a week.
2. Variable bedtime or awakening hours.
3. Frequent episodes (two to three times a week) of extended time in bed.
4. Routine use of products containing alcohol, tobacco, or caffeine in the period preceding bedtime.
5. Performance of exercise near bedtime.
6. Plans to become implicated in exciting or emotionally bothersome activities near bedtime.
7. Frequent use of the bed for unrelated activities (e.g., to watch television, read, study, eat, etc.).
8. Sleeps in an uncomfortable bed (mattress in poor condition, inadequate bed linen, etc.).
9. Allows the room to be too bright, poorly ventilated, untidy, too warm, too cold or otherwise conditioned to preclude sleep induction.
10. Carries out activities requiring high levels of concentration shortly before bedtime.
11. Allows mental activities in bed, such as thinking, planning, remembering, etc.

Table 14
Diagnostic Criteria for Limit-Setting Sleep Disorder

1. Evasive or refuses to go to bed at appropriate time.
2. Once sleep period has started, sleeping is of normal quality and duration.

Table 15
Diagnostic Criteria for Sleep-Onset Association Disorder

1. Complaint of insomnia.
2. Complaint is temporarily associated with the absence of certain conditions (e.g., being picked up in arms, moved or breastfed, listening to radio or watching television, etc.).
3. With the particular association present, sleep is normal in terms of onset, duration, and quality.
4. No evidence of significant underlying medical or psychiatric disorder able to account for complaint.
5. No other criteria for other sleep disorders able to cause difficulties in falling asleep (e.g., limit-setting sleep disorder).

Table 16
Diagnostic Criteria for Nocturnal Eating/Drinking Syndrome

1. Frequent and recurrent awakenings in order to eat or drink.
2. Following food or drink intake, sleep onset is normal.

Associated With Psychiatric Disorders

Table 17
Diagnostic Criteria for Sleep Disorder With Psychoses

1. Complaint of insomnia or excessive sleepiness.
2. Clinical diagnosis of schizophrenia, schizophrenia-like disorder, or some other functional psychosis.

Table 18
Diagnostic Criteria for Sleep Disorder With Mood Disorders

1. Complaint of insomnia or excessive sleepiness.
2. Complaint is temporally associated with diagnosis of mood disorder.

Table 19
Diagnostic Criteria for Sleep Disorder With Anxiety Disorders

1. Complaint of insomnia or excessive sleepiness.
2. Presence of long-term generalized anxiety disorder or some other anxiety disorder.
3. The sleep disorder has followed the course of the psychiatric problem without significant prolonged periods of remission.

Table 20
Diagnostic Criteria for Sleep Disorder With Panic Disorders

1. Complaint of sudden awakening or insomnia.
2. Presence of panic disorder with or without agoraphobia.
3. The sleep disorder has followed the course of the psychiatric problem without significant prolonged periods of remission.

Table 21
Diagnostic Criteria for Sleep Disorder With Alcoholism

1. Complaint of insomnia or excessive sleepiness.
2. Diagnosis of alcoholism.

Associated With Environmental Factors

Table 22
Diagnostic Criteria for Environmental Sleep Disorder

1. Complaint of insomnia or excessive sleepiness.
2. Complaint is temporally associated with the introduction of an environmental stimulus or circumstance that alters sleep and is physically measurable.
3. The physical properties of the environmental factor explain the sleep complaint; the psychological significance of the environmental factor does not account for the complaint.
4. Withdrawal of the causal environmental factor leads to immediate or gradual resolution with a return to normal sleep.
5. The disorder has been present for more than 3 weeks.

Table 23
Diagnostic Criteria for Food Allergy Insomnia

1. Complaint of insomnia.
2. Complaint is temporally associated with the introduction of a concrete food or drink.
3. Withdrawal of the agent restores normal sleep and waking, either immediately or in the course of about 4 weeks. The diurnal behavior may improve before the sleep model.
4. Recurrence of altered sleep and diurnal behavior when the suspected allergen is reintroduced in the diet.

Table 24
Diagnostic Criteria for Toxin-Induced Sleep Disorder

1. Complaint of insomnia or excessive sleepiness.
2. Complaint is temporally associated with the presence of an environmental or ingested toxic agent (e.g., heavy metals or organic toxins, etc.).
3. No evidence of any other medical or psychiatric disorder other than that associated with the toxicity accounting for the complaint.
4. The diagnostic criteria for any other sleep disorder causing complaints of insomnia or excessive sleepiness are not met.

Associated With Drug Dependencies

Table 25
Diagnostic Criteria for Hypnotic-Dependent Sleep Disorder

1. Complaint of insomnia or excessive sleepiness.
2. Use of hypnotics practically daily for at least 3 weeks.
3. Withdrawal of the hypnotic is associated with exacerbation of the primary complaint, which is often judged as being worse than the original sleep problem.

Table 26
Diagnostic Criteria for Stimulant-Dependent Sleep Disorder

1. Complaint of insomnia or excessive sleepiness.
2. Complaint is temporally associated with the use or withdrawal of a stimulant medication.
3. Use of stimulant medication alters the habitual sleep period, or more than one attempt to withdraw the stimulant induces symptoms of excessive sleepiness.

Table 27
Diagnostic Criteria for Alcohol-Dependent Sleep Disorder

1. Complaint of insomnia or excessive sleepiness.
2. Complaint is temporally associated with more than one attempt to withdraw alcohol consumption before bedtime.

Associated With Sleep-Induced Respiratory Impairment

Table 28
Diagnostic Criteria for Obstructive Sleep Apnea Syndrome

1. Complaint of insomnia or excessive sleepiness. The patient may occasionally be unaware of clinical facts that are nevertheless apparent to others.
2. Frequent episodes of obstructed breathing during sleep.
3. The associated conditions include:
   a. Heavy snoring.
   b. Dry mouth on awakening.
   c. Chest retraction during sleep in young children.

Table 29
Diagnostic Criteria for Central Sleep Apnea Syndrome

1. Complaint of insomnia or excessive sleepiness. The patient may occasionally be unaware of clinical facts that are nevertheless apparent to others.
2. Frequent episodes of shallow breathing or absence of breathing during sleep.
3. Polysomnography shows central apneic pauses lasting more than 10 seconds (20 seconds in infancy), with one of the following:

(Continued)

Table 29 *(Continued)*

a. Frequent awakening from sleep associated with apnea.
b. Bradycardia or tachycardia.
c. Oxygen desaturation associated with the apneic episodes (criteria included in the International Classification of Sleep Disorders).
d. Multiple sleep latency test exhibiting a mean sleep latency of less than 10 minutes.

Table 30
Diagnostic Criteria for Central Alveolar Hypoventilation Syndrome

1. Complaint of insomnia or excessive sleepiness. The patient may occasionally be unaware of clinical facts that are nevertheless apparent to others, such as hypoventilation during sleep.
2. Frequent episodes of shallow breathing or absence of breathing during sleep.
3. Absence of primary lung disease, skeletal malformations, or neuromuscular disorders affecting respiration.
4. Polysomnography shows episodes of shallow breathing lasting more than 10 seconds, associated with oxygen desaturation and one or more of the following:
   a. Frequent awakening from sleep associated with the breathing alterations.
   b. Bradycardia or tachycardia.
   c. Multiple sleep latency test exhibiting a mean sleep latency of less than 10 minutes.

Table 31
Diagnostic Criteria for Sleep Disorder Associated With Chronic Obstructive Pulmonary Disease

1. Complaint of insomnia or excessive sleepiness.
2. Complaint is temporally associated with the presence of chronic obstructive pulmonary disease.

Table 32
Diagnostic Criteria for Sleep-Related Asthma

1. Complaint of insomnia or excessive sleepiness, and cough or dyspnea.
2. Complaint is temporally associated with the presence of asthma.

Table 33
Diagnostic Criteria for Altitude Insomnia

1. Complaint of insomnia.
2. Complaint is temporally associated with elevations typically higher than 4000 m.

Insomnias Associated With Movement Disorders

Table 34
Sleep Starts (Hypnic Jerks)

1. Complaints of difficulties falling asleep, or of intense bodily movements at start of sleep.
2. Sudden, brief jerks at start of sleep, affecting mainly arms or legs.

Table 35
Diagnostic Criteria for Restless Leg Syndrome (see Table 5 for Full Criteria)

1. Complaint of unpleasant sensation in legs at night, or difficulty falling asleep.
2. Unpleasant slipping sensation within gastrocnemius region often associated with generalized pain and leg pain.
3. Discomfort is calmed with limb movements.

Table 36
Diagnostic Criteria Periodic Limb Movement Disorder

1. Complaint of insomnia or excessive sleepiness. Occasionally the patient is asymptomatic, and the movements are observed by another person.
2. Repetitive and highly stereotyped limb muscle movements, characterized in the leg by extension of the big toe in combination with partial flexion of the ankle, knee, and occasionally the hip.

Table 37
Diagnostic Criteria for Nocturnal Leg Cramps (Nocturnal Myoclonus)

1. Complaint of painful sensation in the leg associated with muscle stiffness or pressing feeling.
2. Recurrent awakenings associated with painful leg sensation.

Table 38
Diagnostic Criteria for Rhythmic Movement Disorder

1. Rhythmic body movements occurring during sleepiness period or actual sleep.
2. At least one of the following alterations is present:
   a. The head moves strongly in an anterior–posterior direction (head banging).
   b. The head moves laterally when in dorsal decubitus (head rolling).
   c. The entire body moves in jerks while supported by hands and knees (body rocking).
   d. The entire body moves laterally when in dorsal decubitus (body rolling).

Table 39
Diagnostic Criteria for Rapid Eye Movement Sleep Behavior Disorder

1. Limb or body movements associated with dreaming.
2. At least one of the following:
   a. Hazardous or potentially hazardous sleep behaviors.
   b. Sleep appears to involve acting.
   c. The behaviors alter sleep continuity.

Table 40
Diagnostic Criteria for Nocturnal Paroxysmal Dystonia

1. Abnormal motor activity during sleep.
2. Dystonic or dyskinetic episodes occurring mainly during sleep.
3. Not associated with any underlying medical or psychiatric disorder capable of accounting for the symptom, e.g., frontal lobe epilepsy.
4. Does not meet the diagnostic criteria for other sleep disorders, such as rapid eye movement sleep behavior disorder or night terror.

Associated With Alterations of the Sleep–Wake Cycle Temporal Model

Table 41
Diagnostic Criteria for Time-Zone Change (Jet-Lag) Syndrome

a. Complaint of insomnia or excessive sleepiness.
b. Symptom started 1-2 days after air travel across at least two time-zones.

Table 42
Diagnostic Criteria for Shift-Work Sleep Disorder

a. Primary complaint of insomnia or excessive sleepiness.
b. Primary complaint is temporarily associated with a work period (normally at night) taking place during normal sleeping period.

Table 43
Diagnostic Criteria for Delayed Sleep-Phase Syndrome

a. Complaint of inability to fall asleep at desire time, or inability to spontaneously wake up at desired time, or excessive tiredness.
b. Delay in main sleep phase with respect to desired sleeping time.
c. Symptoms present for at least 1 month.

(Continued)

Table 43 *(Continued)*

d. When no strict sleep model is required (e.g. during holidays), the patient:
    1. Has a habitual sleep period that is deep and of normal quality and duration.
    2. Wakes up spontaneously.
    3. Maintains stable coupling to the 24-hour sleep-waking model, though with a phase delay.
    4. Evidence of temporal delay of habitual sleep period in sleep diaries, for a period of at least 2 weeks.

Table 44
Diagnostic Criteria for Advanced Sleep-Phase Syndrome

a. Inability to stay awake until the desired bedtime, or inability to continue sleeping until the desired waking up time.
b. The symptoms are present for at least 3 months.
c. Evidence of time-advance in habitual sleeping period, as evidenced by polysomnographic monitoring over a period of 24–36 hours.
d. The diagnostic criteria for any other sleep disorder causing inability to maintain sleep or excessive sleepiness are not met.

Table 45
Diagnostic Criteria for Non-24-Hour Sleep–Wake Disorder

a. Principal complaint of difficulty falling asleep or waking up.
b. Progressive delays in start and end of sleep, with inability to maintain stable entrainment of a 24-hour sleep–waking model.
c. Presence of the sleep–waking model for at least 6 weeks.

Table 46
Diagnostic Criteria for Irregular Sleep–Wake Pattern

a. Complaint of insomnia or excessive sleepiness.
b. Irregular model of at least three sleep episodes in the course of a 24-hour period.
c. Presence of the sleep model for at least three months.
d. Evidence of altered chronobiological rhythmicity attributable to any of the following:

Demonstration of loss of normal sleep–waking model via continuous polysomnographic monitoring for at least 24 hours.
Demonstration of normal temperature model loss via continuous polysomnographic monitoring for at least 24 hours.

Table 47
Diagnostic Criteria for Confusional Awakenings (Sleep Drunkenness)

a. Complaint by patient or some observer of recurrent mental confusion with micro-awakening or full awakening.
b. Spontaneous confusional episodes can be induced by forced awakening.
c. Not associated with other medical disorders such as complex partial epilepsy.
d. The diagnostic criteria for any other sleep disorder causing the complaint (e.g., night-time fears, sleepwalking) are not met.

Associated With Parasomnias

Table 48
Diagnostic Criteria for Confusional Awakenings (Sleep Drunkenness)

1. Complaint by patient or some observer of recurrent mental confusion with microawakening or full awakening.
2. Spontaneous confusional episodes can be induced by forced awakening.
3. Not associated with other medical disorders such as complex partial epilepsy.
4. The diagnostic criteria for any other sleep disorder causing the complaint (e.g., nighttime fears, sleepwalking) are not met.

Table 49
Diagnostic Criteria for Night Terrors (Pavor Nocturnus, Incubus Attacks)

1. A sudden episode of intense terror during sleep.
2. The episodes usually occur within the first third of the night.
3. Produces partial or total amnesia of the events during the episode.

Table 50
Diagnostic Criteria for Nightmares

1. At least one episode of sudden awakening from sleep with intense fear, anxiety, and imperative harm sensation.
2. Immediate recall of terror contents of sleep.
3. Alertness is complete immediately after awakening, with little confusion or disorientation.
4. The associated conditions include at least one of the following:
   a. Return to sleep after the episode is delayed and not rapid.
   b. The episode occurs during the last half of the habitual sleep period.

Associated With Disorders of the Central Nervous System

Table 51
Diagnostic Criteria for Sleep Disorder With Parkinsonism

1. Frequent awakenings or episodes of daily sleeping with or without motor activity during the sleep period.
2. Diagnosis of parkinsonism.
3. Dementia.
4. Frequent awakening, daily sleeping episodes, or nocturnal confusion associated with the diagnosis of dementia (e.g., Alzheimer's disease).
5. Degenerative brain disease
   a. Complaint by patient or some observer of insomnia or excessive sleepiness. There may be abnormal body movements or alterations in the number of movements during sleep.
   b. Associated with the diagnosis of degenerative central nervous disease (e.g., Huntington's disease).
   c. The symptom is not associated with psychiatric disorders.

Table 52
Diagnostic Criteria for Sleep-Related Epilepsy

1. Complaint of one of the following:
   a. Sudden awakening at night.
   b. Unaccounted urinary incontinence.
   c. Abnormal movements during sleep.
2. More than 75% of the episodes occur at night.
3. At least two of the following conditions are present:
   a. Generalized tonic–clonic movements of the limbs.
   b. Focal limb movement.
   c. Automatisms (lip sucking, sheet-grasping maneuvers, etc.)
   d. Urinary incontinence.
   e. Tongue biting.
   f. Forced expiratory epileptic crying.
   g. Poststroke lethargy and confusion.

Table 53
Diagnostic Criteria for Fatal Familial Insomnia[a]

1. Insomnia complaint initially present.
2. Autonomous hyperactivity with pyrexia, excessive salivation, hyperhidrosis or anhidrosis, and cardiac and respiratory dysfunction.
3. Familial model present.
4. Progression to stupor, coma, and death in about 24 months.
5. Not the result of some other medical or psychiatric disorder, e.g., Alzheimer's dementia, Creutzfeldt-Jakob syndrome, or schizophrenia.

[a]*See* "Creutzfeldt-Jakob Disease" in Chapter 3.

Associated With Indeterminate Sleep Disorders

Table 54
Diagnostic Criteria for Sleep State Misperception

1. Complaint of insomnia.
2. Normal duration and quality of sleep.

Table 55
Diagnostic Criteria for Sleep Choking Syndrome

1. Sudden awakening during sleep.
2. Frequent (almost daily) episodes of choking or suffocation during sleep.
3. The associated conditions include at least one of the following:
   a. Tachycardia.
   b. Intense anxiety.
   c. Imminent death sensation.

Idiopathic Insomnia

Table 56
Diagnostic Criteria for Idiopathic Insomnia

1. Complaint of insomnia, associated with complaint of diminished performance during waking hours.
2. Insomnia is of prolonged duration, typically commencing in early infancy or even after birth.
3. No evidence of any other medical or psychiatric disorder capable of accounting for the early onset of insomnia.

Other Causes Of Insomnia

Table 57
Diagnostic Criteria for Sleep-Related Gastroesophageal Reflux

1. Complaint of recurrent awakening. The disorder may occasionally be asymptomatic.
2. Episodes of chest discomfort or burning and substernal pain sensation during sleep.
3. Other conditions occurring during sleep include one or more of the following:
   a. Sour or bitter taste in mouth.
   b. Cough or choking.
   c. Heartburn.
4. Polysomnographic monitoring shows:
   a. Awakenings during sleep.
   b. The monitoring of pH reveals acid gastroesophageal reflux during sleep related to polysomnographic monitoring.

Table 58
Diagnostic Criteria for Fibrositis[a]

1. Complaint of nonrestorative sleep and muscle pain.
2. Muscle pain is not associated with other musculoskeletal disorders.
3. Hard and tender zones are palpated in the muscles, particularly in the neck and shoulders.

[a]*See* "Fibromyalgia" and "Chronic Fatigue Syndrome" in Chapter 13.

Table 59
Diagnostic Criteria for Menstrual-Associated Sleep Disorder

1. Complaint of insomnia or excessive sleepiness.
2. Complaint of insomnia or excessive sleepiness is temporally associated with menstrual cycle, or insomnia complaint is temporally related to menopause.
3. The disorder is present for at least 3 months.

Table 60
Diagnostic Criteria for Pregnancy-Associated Sleep Disorder

1. Complaint of insomnia or excessive sleepiness.
2. The sleep disorder begins with, and is present during, pregnancy.

Table 61
Diagnostic Criteria for Terrifying Hypnagogic Hallucinations

1. Sudden awakening at the start of sleep, with immediate recall of terrifying hallucinations.
2. Alertness is present immediately after awakening, with little confusion or disorientation.

Table 62
Diagnostic Criteria for Sleep-Related Laryngospasm

1. Sudden awakening during sleep.
2. Stridor associated with laryngeal spasm.

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